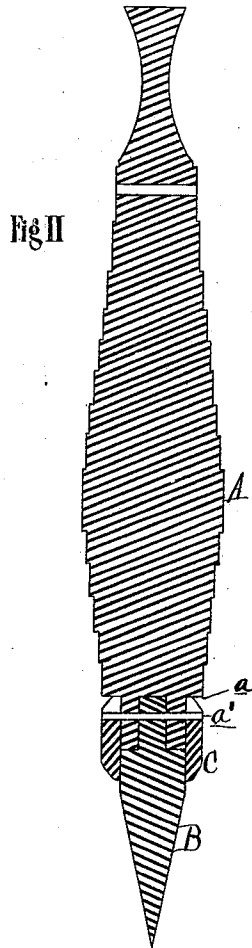
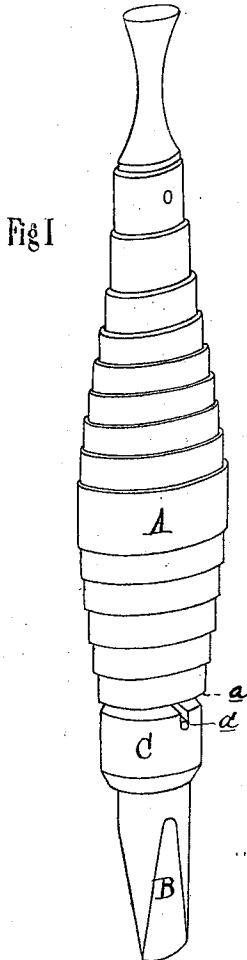


A. J. WHITNEY.

SUBMARINE ROCK-CHISEL.

No. 170,425.

Patented Nov. 23, 1875.



Attest
N. S. Sprague
Chas E. Questis

Inventor
A. J. Whitney
By Attorney
Thos. S. Sprague

UNITED STATES PATENT OFFICE

ANDREW J. WHITNEY, OF SANDUSKY, IOWA.

IMPROVEMENT IN SUBMARINE ROCK-CHISELS.

Specification forming part of Letters Patent No. **170,425**, dated November 23, 1875; application filed June 20, 1873.

To all whom it may concern:

Be it known that I, ANDREW J. WHITNEY, of Sandusky, in the county of Lee and State of Iowa, have invented a new and useful Improvement in a Submarine Rock-Chisel; and I do hereby declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section.

Like letters refer to like parts in both figures.

Where a body of water of moderate depth, and having a rocky bottom, is to be deepened for a channel, it is customary to employ heavy chisels, constructed of wrought-iron, from twelve to eighteen feet in length, and from one foot to one foot and three inches in thickness, weighing from two to three tons each, operated somewhat similar to pile-drivers from the sides of scows or flat-boats anchored over the spot for cutting channels in the rock to facilitate the operation of breaking it up in small blocks preparatory to their removal. In such cases, when the bit of the chisel became dulled or required repointing, it has been the custom to carry the entire tool to the smithy for that purpose, which was both inconvenient and expensive.

The object of this invention is the application of the detachable point used in drills for boring artesian wells, &c., which shall be of such a construction as to stand the jar of the heavy chisels used in channeling without loosening the connection of the detachable point and the stock; and my invention therein consists, principally, in providing the lower end of the stock with a shoulder, below which a heavy iron collar is shrunk onto the stock, covering the joint of the detachable point, and abutting upwardly against the said shoulder;

and, further, in the combination, construction, and arrangement of the several parts, all as more fully hereinafter explained.

In the drawings, A represents the heavy chisel stock or shank, made preferably of wrought-iron, having a shoulder, *a*, near its lower end, below which shoulder the stock is smaller than the part above, and has a regular circular outline to its lower end. This end of the stock has a socket to receive the tenon on the upper end of the steel chisel-bit B, which is secured thereto by a transverse pin, *a'*. C is a broad iron collar, which is first heated and then driven over the bit against the shoulder *a*, and is broad enough to extend from said shoulder and cover the joint where the chisel-bit and stock come together. The collar is then shrunk. When it is desired to remove the bit the collar C is heated until it expands sufficiently to be driven off, when the pin *a'* is driven out and the bit removed.

I disclaim, broadly, the invention of a detachable point tenoned into the stock and held by a pin and a band; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a chisel for channeling, securing the detachable point to the stock by a collar shrunk over the joint and below a shoulder on the stock, and abutting upwardly against said shoulder, substantially as described and shown.

2. In a chisel for channeling the combination of the wrought-iron socket A, steel bit B, transverse pin *a'*, collar C, and shoulder *a*, when the several parts are constructed and arranged substantially as described and shown.

ANDREW J. WHITNEY.

Witnesses:

FRANCIS BLACK,
L. F. BAKER.